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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/558,589	04/26/2000	Amro A Younes	53921/79	1057

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EXAMINER
PHILPOTT, JUSTIN M

ART UNIT	PAPER NUMBER
2665	5

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 March 2001</u> .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-24</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-24</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>26 April 2000</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

Drawings

1.   Figure 1 should be designated by a legend such as --Prior Art-- because only that which is

old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings

are required in reply to the Office action to avoid abandonment of the application. The objection

to the drawings will not be held in abeyance.

Claim Objections

2.   Claims 2 and 19 are objected to because of the following informalities: "point-point

multipoint overhead" (page 17, line 26) should be changed to "point-to-multipoint overhead",

"point-to-point multipoint overhead" (page 18, line 2) should be changed to "point-to-multipoint

overhead", and "point-to-point multipoint overhead" (page 21, lines 14-15) should be changed to

"point-to-multipoint overhead". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

4.   Claims 3-6 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Specifically, claims 3 and 20 recite the limitation "an address of the interface card" in

claims 2 and 19, respectively. There is insufficient antecedent basis for this limitation in the

claim. Applicant may overcome this rejection by amending the claims to instead recite, e.g., "an

address of an interface card" or "an address of the interface device".

Claims 4-6 are rejected for being dependent upon a rejected base claim. Applicant may

overcome this rejection by amending claim 3 as suggested above.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims 1, 2, 7-19 and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by

U.S. Patent No. 5,684,797 to Aznar et al.

Regarding claims 1, 9 and 15, Aznar teaches a method of processing a stream of data

packets in a packet switch (e.g., FIG. 1; and col. 1, line 49 – col. 6, line 38) having one or more

interface devices (e.g., receive side 111/input port adapter, transmit side 120/output port adapter)

for servicing an input point (e.g., 101-P1), a first output point (e.g., 102-P1) and a second output

point (e.g., 104-P2) of the switch, the method comprising the steps of: (a) configuring the device

servicing the input point to attach overhead associated with a point-to-point connection (e.g., TP

vector representing a single target port, see col. 2, line 66 – col. 3, line 19) to packets received at

the input point in order to route the packets to the first output point; (b) configuring the device

servicing the first output point to receive and process the packets having the point-to-point

overhead attached thereto (e.g., see col. 3, lines 46-52 wherein TP vector denotes overhead

corresponding to a single output port, or a point-to-point connection); (c) configuring the device

servicing the second output point to receive and process packets having overhead attached

thereto which is associated with a point-to-multipoint connection for routing packets from the

input point to the first output point and from the input point to the second output point (e.g., see

col. 4, lines 38-60 wherein TP vector denotes overhead corresponding to a plurality of ports, or a

point-to-multipoint connection); (d) configuring the device servicing the first output point to

additionally receive and process packets having the point-to-multipoint overhead attached thereto

(e.g., see col. 3, lines 20-30 wherein the device servicing the first output port is configured to

receive and process TP vectors, or packets having point-to-multipoint overhead attached thereto);

(e) configuring the device servicing the input point to attach the point-to-multipoint overhead to

packets received at the input point only after step (d) is completed, thereby converting a point-to-

point packet flow into a point-to-multipoint packet flow without disrupting the point-to-point

packet flow (e.g., see col. 2, lines 15-22).

Regarding claims 2, 10 and 19, Aznar further teaches the steps of: (f) configuring the

device servicing the second output point to stop receiving and processing packets having the

point-to-multipoint overhead (e.g., resetting bits corresponding to ports, see col. 4, lines 15-19);

(g) configuring the device servicing the input point to attach the point-to-point overhead packets

received at the input (e.g., see col. 2, line 66 – col. 3, line 19); and (h) configuring the device

servicing the first output to stop receiving and processing the packets having point-to-multipoint

overhead only after step (g) is completed (e.g., wherein packets are only sent to designated ports

in accordance with received TP vectors, see col. 4, lines 1-54), thereby terminating the flow of

packets to the second output point without disrupting the flow of packets to the first output point

(e.g., see col. 2, lines 15-22 wherein a connection can be changed on the fly from point-to-

multipoint to point-to-point).

Regarding claims 7, 14 and 24, Aznar teaches a packet is a fixed-length cell (e.g., see col.

3, lines 46-49 regarding ATM cell).

Regarding claim 8, Aznar teaches the packet switch is a connection-oriented switch (e.g.,

see col. 1, lines 49-52).

Regarding claims 11, 16 and 21, Aznar teaches the point-to-point overhead comprises a

unique interface card address (e.g., a TP vector for a point-to-point connection comprises one bit

set to 1 wherein the specific placement of the 1 within the vector corresponds to a specific

unique port, or interface card).

Regarding claims 12, 17 and 22, Aznar teaches the point-to-multipoint overhead (e.g., TP

vector) comprises a multicast interface card address referencing a plurality of interface cards

(e.g., each bit of TP vector corresponds to one of a plurality of ports, or interface cards).

Regarding claims 13, 18 and 23, Aznar teaches the point-to-point overhead and the point-

to-multipoint overhead comprise identical bitmaps wherein the setting of a single bit identifies a

point-to-point connection and the setting of plural bits identifies a point-to-multipoint connection

(e.g., see col. 3, lines 10-20).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

8.   Claims 3-6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aznar

in view of U.S. Patent No. 5,959,972 to Hamami.

Regarding claims 3 and 20, Aznar teaches the method as discussed above regarding

claims 2 and 19, and further teaches the point-to-point overhead comprises a unique interface

card address (e.g., a TP vector for a point-to-point connection comprises one bit set to 1 wherein

the specific placement of the 1 within the vector corresponds to a specific unique port, or

interface card).

However, Aznar may not specifically disclose each switch point is further referenced by a

virtual path identifier.

Hamami teaches a method of port/link redundancy in an ATM switch. Specifically,

Hamami discloses that it is well known in the art of ATM switches that an ATM header

comprises a virtual path identifier (e.g., see col. 1, lines 43-55) which allows the network to

associate a given cell with a given connection. Furthermore, the port/link redundancy invention

of Hamami provides improved connectivity reliability (e.g., see col. 2, lines 34-49). Thus, at the

time of the invention it would have been obvious to one of ordinary skill in the art to apply the

teachings of Hamami to the method of Aznar in order to allow the network to associate a given

cell with a given connection and, further, to provide improved connectivity reliability.

Regarding claim 4, as discussed above regarding claims 11, 16 and 21, Aznar teaches the point-to-point overhead comprises a unique interface card address (e.g., a TP vector for a point-to-point connection comprises one bit set to 1 wherein the specific placement of the 1 within the vector corresponds to a specific unique port, or interface card).

Regarding claim 5, as discussed above regarding claims 12, 17 and 22, Aznar teaches the point-to-multipoint overhead (e.g., TP vector) comprises a multicast interface card address referencing a plurality of interface cards (e.g., each bit of TP vector corresponds to one of a plurality of ports, or interface cards).

Regarding claim 6, as discussed above regarding claims 13, 18 and 23, Aznar teaches the point-to-point overhead and the point-to-multipoint overhead comprise identical bitmaps wherein the setting of a single bit identifies a point-to-point connection and the setting of plural bits identifies a point-to-multipoint connection (e.g., see col. 3, lines 10-20).

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,052,373 to Lau discloses a fault tolerant multicast ATM switch fabric and U.S. Patent No. 6,147,992 to Giroir et al. discloses group addressing in high speed packet switching networks.
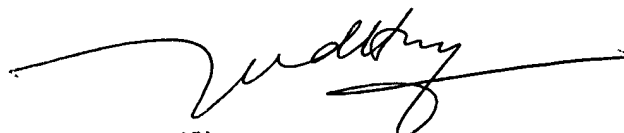
10.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M Philpott whose telephone number is 703.305.7357. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on 703.308.6602. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.305.4750.

Justin M Philpott

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600